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To determine the standards utilized in most states for vocational agricultural facilities, state supervisors of vocational agriculture and head teacher trainers of agricultural education were surveyed in the 48 continental states. The 27 state standards received in response provided the basis for development of 41 summary tables of recommendations for vocational agriculture facilities. (DM)

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(For Discussion Purposes Only)

SUMMARY
OF
VOCATIONAL AGRICULTURE
FACILITY STANDARDS
IN
27 STATES

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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In Cooperation With

Vocational Agriculture Section
Office of Vocational Education
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Columbia, South Carolina

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INTRODUCTION

The following material has been prepared in an effort to determine what standards other states have developed for vocational agriculture facilities.

A letter was sent to the state supervisors of vocational agriculture and the head teacher educators in all states, except Alaska and Hawaii, asking them to send any information regarding standards for physical facilities for departments of vocational agriculture in their respective states. Replies were received from 43 of the states with 16 of these not having any written standards which they could send. The standards received from the other states ranged from a single page with a few general standards to complete bulletins including detailed standards and recommendations, illustrations, floor plans, tool and equipment lists, painting guides, etc.

Although a review of individual standards may be required for specific areas the following tables summarize much of the information contained in the published state standards. In compiling these tables material was reviewed from the following states:

<u>Data</u>	<u>Date of Publication</u>	<u>Data</u>	<u>Date of Publication</u>
Alabama	1964	Nebraska	--
Arizona	1959	New Mexico	1966
California	1958	New York	1957
Colorado	1963	North Carolina	1962
Florida	1966	North Dakota	1963
Idaho	1963	Ohio	1958
Indiana	--	Oregon	1966
Iowa	--	Pennsylvania	--
Kansas	1964	Texas	1966
Massachusetts	--	Utah	--
Michigan	--	Virginia	--
Minnesota	1966	Washington	1951
Mississippi	1964	Wisconsin	1958
Missouri	1957		

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Table 1 - SIZE OF CLASSROOM

	Average	Range	Number Reporting
Length (feet)	33	28- 40	13
Width (feet)	24.8	20- 30	18
Height (feet)	10.75	8- 12	6
Square Feet	830.75	660- 1040	24
Cubic Feet	9200.00	6480-10500	6
Square Feet per Student	37.6	35- 45	12

Table 2 - LOCATION OF CLASSROOM

	Yes	No	No Preference	Number Reporting
Attached to Main Building	2	8	10	20
At Ground Level	21	0	0	21
Same Building as Shop	22	0	0	22

Table 3 - MATERIAL USED FOR CLASSROOM WALLS

Material to be Used	Number of States Recommending
Masonry	3
Same as other school buildings	4
Total number of states reporting	7

Table 4 - MATERIAL USED FOR CLASSROOM FLOORS

Material to be Used	Number of States Recommending
Hardwood	1
Asphalt tile	2
Vinyl tile	1
Mastic tile	1
No preference	14
Total number of states reporting	19

Table 5 - MATERIAL USED FOR CLASSROOM CEILING

Material to be Used	Number of States Recommending
Accoustical material	10
No preference	8
Total number of states reporting	18

Table 6 - INTERIOR COLORS FOR CLASSROOM

	Follow Paint Chart For School	Light Colors	No Preference	Number Reporting
Color for Ceiling	2	5	11	18
Color for Walls	3	6	4	13
Color for Trim	2	1	2	5

Table 7 - SIZE OF WINDOWS IN CLASSROOM

	Average	Range	No Preference	Number Reporting
Area in Glass as Related to Floor Area	19% of floor area	10%-25% of floor area	2	7

Table 8 - LOCATION OF WINDOWS IN CLASSROOM

	Average	Range	Number Reporting
Height from floor (inches)	47	36-66	4
Near the Ceiling	No distance given	No distance given	4

Table 9 - WINDOW SHADING IN CLASSROOM

	Number of States Recommending
Shades	13
Darkout Shades	3
Venetian Blinds	1

Table 10 - TYPE OF LIGHTING IN CLASSROOM

	Number of States Recommending
Fluorescent	3
Semi-direct	3

Table 11 - ARTIFICIAL LIGHTING IN CLASSROOM

	Average	Range	No Preference	Number Reporting
Amount of artificial light	43 Footcandles	30-100 Footcandles	1	13

Table 12 - LOCATION OF ELECTRIC OUTLETS IN CLASSROOM

	10' Apart Around Walls	One on Each Wall	End Walls Only	Number Reporting
110 Volt Duplex- Receptacles	8	5	2	15

Table 13 - HEATING AND COOLING SYSTEMS FOR CLASSROOM

	Number of States Recommending
Central Heating with Separate Controls	9
Separate Heating System	3
No Preference on Heating System	6
Air Conditioned	1
Fans for Cooling	1
No Preference on Cooling System	5

Table 14 - SIZE OF CHALKBOARD

	Average	Range	Number Reporting
Length (feet)	16	12 -25	21
Width (feet)	3½	3½- 4	6
Square Feet	60	40 -80	9

Table 15 - SIZE OF TACK BOARD

	Average	Range	Number Reporting
Length (feet)	8.5	4-16	11
Width (feet)	3.75	3- 4	6
Square Feet	32.5	18-72	11

Table 16 - CLASSROOM EQUIPMENT

Type of Equipment	Number of States Recommending
Teacher's table	11
Bookcase	21
Bulletin cabinet	20
Chart storage	16
Notebook rack	16
FFA file	3
Magazine rack	18
Audio-Visual Aids stand	3
Projection screen	10
Display cabinet	6
Sink	19

Table 17 - FACILITIES IN CONNECTION WITH CLASSROOM

	Number of States Recommending
Office	21
Storeroom	19
Janitor's closet	3
Laboratory area	10
Entrance Vestibule	5
Library	15
Kitchen facilities	1

Table 18 - SIZE OF OFFICE AND STOREROOM

	Average	Range	Number Reporting
Office Size	108 sq. ft.	80 sq. ft.- 192 sq. ft.	20
Storeroom Size	80 sq. ft.	24 sq. ft.- 150 sq. ft.	15

Table 19 - LOCATION OF STOREROOM

	Number of States Recommending
Adjoining Classroom	10
With Office	2
No Preference	2

Table 20 - TYPE OF PARTITION BETWEEN CLASSROOM AND OFFICE

	Number of States Recommending
Glass windows or panels	21

Table 21 - OFFICE EQUIPMENT

Type of Equipment	Number of States Recommending
Teacher's desk and chair	15
Steel file cabinets	16
Conference table	11
Secretary's desk	7
Storage space	8

Table 22 - SIZE OF SHOP

	Average	Range	Number Reporting
Length (feet)	67	42- 100	14
Width (feet)	41	25- 58	17
Height (feet)	13.2	11- 16	19
Cubic Feet	35800	21000-70000	14
Square Feet (One-classroom Department)	2647.3	1800- 5000	22
Square Feet (Two-classroom Department)	3850	3400- 4300	3
Square Feet per Student	153	100- 250	9

Table 23 - LOCATION OF SHOP

	Number of States Recommending
Shop and Classroom in same building	22
Shop facing away from other school buildings	11

Table 24 - SURFACED AREA ADJACENT TO SHOP

	Number of States Recommending
Surfaced Area	23

Table 25 - SIZE OF SURFACED AREA

	Average	Range	Number Reporting
Square Feet (One-classroom Department)	1588	500-5000	11
Square Feet (Two-classroom Department)	2160	840-3480	2

Table 26 - MATERIAL USED FOR SHOP FLOORS

	Number of States Recommending
Concrete	20

Table 27 - SIZE OF SHOP DOOR

	Average	Range	Number Reporting
Width (feet)	13.1	10-18	22
Height (feet)	11.75	10-14	18

Table 28 - SIZE OF WINDOWS IN SHOP

	Average	Range	No Preference	Number Reporting
Area in Glass as related to floor area	19.5% of floor area	14-25% of floor area	2	7

Table 29 - HEIGHT OF WINDOWS FROM SHOP FLOOR

	Average	Range	No Preference	Number Reporting
Distance from floor (feet)	5	3.5-8	1	18

Table 30 - ARTIFICIAL LIGHTING IN SHOP

	Average	Range	No Preference	Number Reporting
Amount of artificial lighting	47 Footcandles	30-100 Footcandles	2	15

Table 31 - HEATING SYSTEM AND VENTILATION FOR SHOP

	Number of States Recommending
Central Heating with Separate Controls	6
Separate Heating System	4
No Preference on Heating System	6
Forced Air Ventilation	2
No Preference on Type of Ventilation	14

Table 32 - LOCATION OF SPECIAL EXHAUST FANS IN SHOP

	Number of States Recommending
Welding Area	17
Forge Area	6
Painting Area	6
Engine Area	2
Areas as Needed	3

Table 33 - LOCATION OF ELECTRICAL OUTLETS IN SHOP

	Number of States Recommending
10'-15' Spacing Around Walls for 110 Volt Outlets (3 Wire)	17
Above Work Bench for 110 Volt Outlets (3 Wire)	4
220 Volt Outlets Located at Welders and Major Power Tools	18

Table 34 - TYPE OF ELECTRICAL SERVICE FOR SHOP

Type of Service	Number of States Recommending
1-phase Service	1
3-phase Service	3
Both 1-phase and 3-phase Service	12

Table 35 - MAJOR POWER TOOLS AND EQUIPMENT IN SHOP

<u>Item</u>	<u>Number of States Recommending</u>
Electric Welders	10
Oxyacetylene Welders	10
Table Saw	6
Radial Saw	7
Jointer	7
Planer	3
Drill Press	8
Power Hacksaw	5
Grinder	8
Air Compressor	11

Table 36 - EQUIPMENT IN SHOP

<u>Item</u>	<u>Number of States Recommending</u>
Hoist-Overhead or "A" Frame	18
Anvil	6
Welding Tables	6
Chalkboard	13
Tack Board	9
Sink	21

Table 37 - WORK BENCHES IN SHOP

<u>Benches Designed for:</u>	<u>Number of States Recommending</u>
Woodworking	1
Electricity	1
Metal	1
Small engines	1
Farm plumbing	1
Demonstration	1
General purpose	18

Table 38 - TOOL CABINETS IN SHOP

<u>Cabinets Designed for:</u>	<u>Number of States Recommending</u>
Woodworking	3
Electricity	3
Metal	3
Small engine	1
Farm plumbing	3
Concrete-masonry	3
Arc welding	3
Oxyacetylene	3
Drill press	2
Farm machinery	3
General purpose	20

Table 39 - FACILITIES IN CONNECTION WITH SHOP

	<u>Number of States Recommending</u>
Restroom	23
Shower	9
Lockers	21
Lumber storage rack	20
Metal storage rack	18
Project storage area	6
Storeroom (supplies)	23
Tool room	6
Wash rack or steam cleaning area	10
Painting area	6
Paint storage	9

Table 40 - SIZE OF GREENHOUSE

	<u>Average</u>	<u>Range</u>	<u>Number Reporting</u>
Length (feet)	52.7	36- 62	3
Width (feet)	26.3	20- 35	3
Square feet	1192.0	720-2000	5
Square feet per student	55.0	50- 60	2

Table 41 - ADDITIONAL INFORMATION INCLUDED IN STATE STANDARDS AND
RECOMMENDATIONS

Type of Information	Number of States Reporting
Floor plans	19
Shop layout plan	19
Color chart for painting	6
List of classroom equipment	7
List of power tools	14
List of hand tools	11
List of shop equipment	14
Greenhouse plans	4
Horticulture equipment list	4
Other horticulture facilities	3